

MEMORANDUM FOR THE RECORD

SUBJECT: SAFE Electrical Design Requirements

1. On 12 December 1977, a meeting was held at the GSA Regional Office Building in order to pass information to the Architect-Engineer on which he is to predicate his design (see attached data). Only certain basic assumptions are known at this time; namely, a requirement for 1800 kVA of 60 Hz UPS power and a requirement for 350 kVA of 415 Hz UPS power. At this time, it is not known who the computer equipment supplier will be or what the equipment configuration will be.

2. The UPS room layouts were done utilizing current information on those systems. It is certain that in the 2 years prior to this equipment being ordered certain state-of-the-art changes will have occurred which may alter the room layout and power requirements. The power distribution system was conceptualized, in the absence of firm equipment data, to approximate that distribution which currently exists in the GC-03/1D16 computer centers. Once the equipment supplier is known, the distribution may have to be changed to meet his equipment requirements.

3. The purpose of this memorandum is to show that while the design of the SAFE center is now in progress, additional redesign may be required once equipment suppliers have been identified.

SIGNED

STATINTL

[REDACTED]
Chief, Electrical Section
Headquarters Engineering Branch, RECD/OL

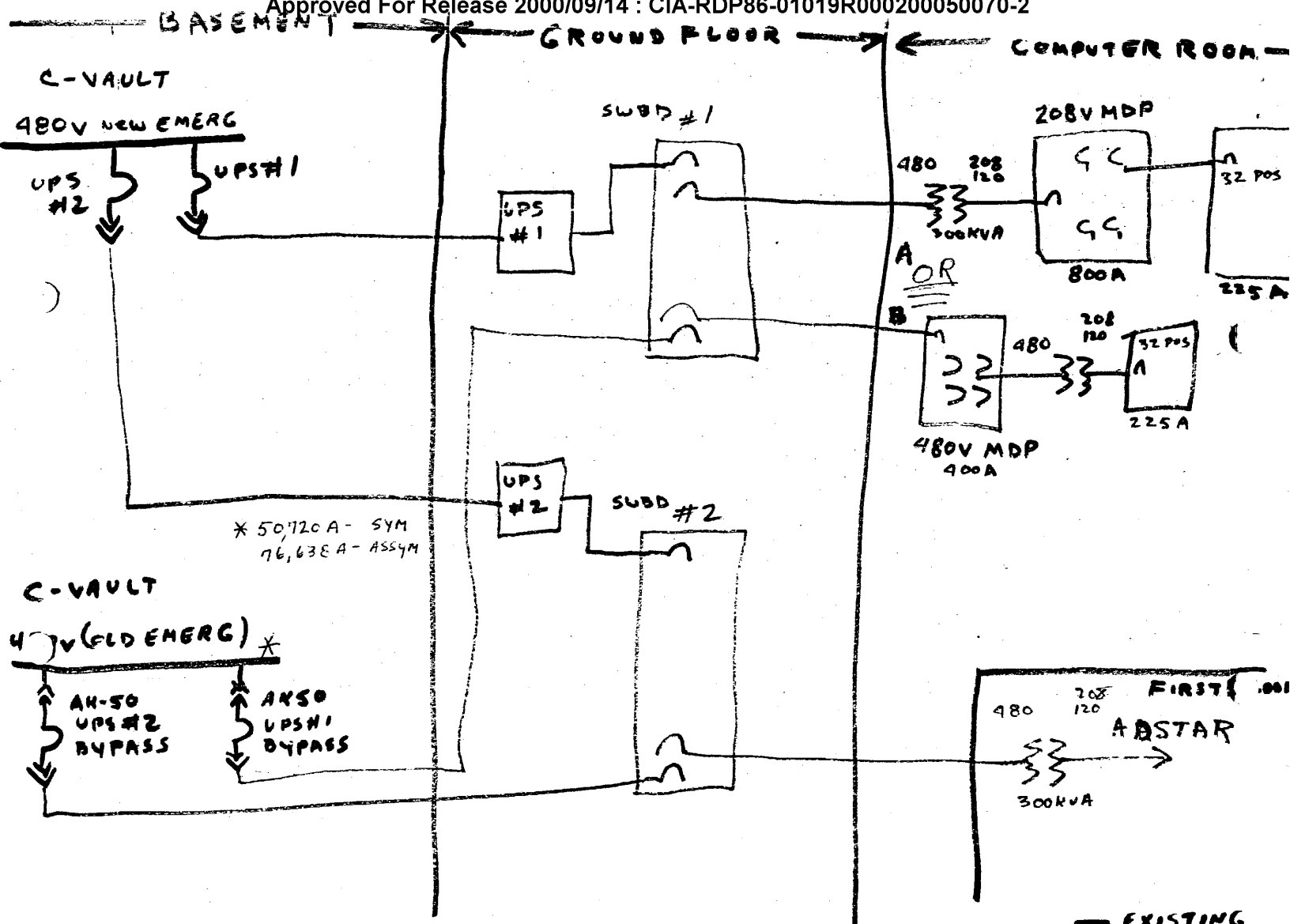
Atts

Distribution:

- Orig. - OL/RECD/HEB Official, w/atts
- 1 - OL/RECD, w/atts
- 1 - OL/RECD/HEB Chrono, w/atts

STATINTL

OL/RECD/HEB, [REDACTED]:jms/7543 (20 Dec 77)



NOTES

1. SHORT CIRCUIT CURRENT AVAILABLE AT 480V
OLD EMERGENCY SWITCHBOARD NOTED IN FIG-1.

UPS #1 AND #2 BYPASS CIRCUITS SHALL BE
1200 A. NO MORE THAN 2% VOLTAGE DROP FROM
C. VAULT TO BRANCH PANEL IN COMPUTER ROOM
SWITCH BOARD NOS. 1 AND 2 SHALL BE RATED
1200A AT 480V 3WIRE WITH EQUIPMENT
GROUND BUS. BOARD SHALL BE SMALLEST
SIZE AVAILABLE. INPUT BREAKERS W/SHUNT TRIP
(UPS AND BYPASS) SHALL BE 1200A AND
LOGGED FOR CABLE INPUT. EACH BOARD SHALL
HAVE MOLDED CASE BRANCH BREAKERS
SUITABLY SIZED.

ALL BRANCH PANELS AND MDP PANELS
SHALL HAVE MAIN BREAKERS

A-E SHALL DESIGN DISTRIBUTION
SYSTEM CENTERED AROUND ONE OF THE
TWO CONCEPTS SHOWN IN FIG-1. EQUIPMENT
SHALL TAKE UP MINIMUM OF FLOOR SPACE.
CEILING HUNG EQUIPMENT IS PREFERRED
NO TRANSFORMER LARGER THAN 300KVA.

TYPICAL BRANCH PANEL SHALL BE
30-4W WITH SEPARATE GROUND BLOCK
225 AMP - 32 POSITION WITH THE
FOLLOWING BOLT IN BREAKERS

NUMBER	AMPS	POLES
3	60	3
3	30	3
2	30	2
10	90	1

7. SEPARATE LIGHTING PANEL IN WIRE CLOSET WITH
MAIN BREAKER WITH SHUNT TRIP
8. SEPARATE AHU PANEL 480V WITH SHUNT TRIP
9. EMERGENCY SHUT DOWN PANEL BUTTONS AHU-POWER-LIGHTS
10. AHUS RESTART AUTOMATICALLY WHEN POWER RESTORED AFTER
OUTAGE. LOCKOUT SWITCH FOR SAFETY
11. FEEDERS TO PANELS IN COMPUTER ROOM TO BE RUN
IN CEILING
12. UPS SUBD #1 SHALL HAVE 3 CIRCUITS TO SAFE
AND AT LEAST 2 SPARE BREAKERS OF LIKE SIZE
13. UPS SUBD #2 SHALL HAVE 2 CIRCUITS TO SAFE,
ONE CIRCUIT TO ADSTAR AND 2 SPARE BREAKERS
14. ANY TRANSFORMERS SHALL HAVE TAPS TO SET
VOLTAGE AT PANELS
15. PANELS TO BE LOCATED EVENLY THROUGHOUT
COMPUTER CENTER
16. CONVENIENCE RECEPTACLES SHALL BE FED
FROM WIRE CLOSET
17. WATER DETECTION SYSTEM SHALL BE SEPARATE
FROM AIR HANDLER UNITS.